

METHOD AND APPARATUS FOR MULTI-SENSORY SPEECH ENHANCEMENT

ABSTRACT OF THE DISCLOSURE

A method and system use an alternative sensor signal received from a sensor other than an air conduction microphone to estimate a clean speech value. The estimation uses either the alternative sensor signal alone, or in conjunction with the air conduction microphone signal. The clean speech value is estimated without using a model trained from noisy training data collected from an air conduction microphone. Under one embodiment, correction vectors are added to a vector formed from the alternative sensor signal in order to form a filter, which is applied to the air conductive microphone signal to produce the clean speech estimate. In other embodiments, the pitch of a speech signal is determined from the alternative sensor signal and is used to decompose an air conduction microphone signal. The decomposed signal is then used to determine a clean signal estimate.